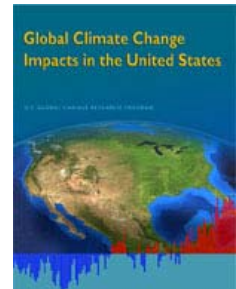




Climate Bill Advances in Congress – A critical look at Waxman-Markey

On May 21, the “American Clean Energy and Security Act” (ACES, H.R. 2454) was voted out of the House Energy & Commerce Committee by a vote of 33 to 25. The bill – by Representatives Henry Waxman (D-CA) and Ed Markey (D-MA) – is moving towards a full vote of the House before Independence Day and then will go on to the Senate.

What are the strengths and weaknesses of ACES? In this article we will look at many of the criticisms – but with a focus on what can be passed within the political context of this Congress. We think this is the most appropriate framework for analysis because remarkable progress has been made in the current Congress; no alternative proposal is as well developed; and it is pure speculation whether the next Congress will be any better. We do know that every year of delay makes reversing the climate crisis more difficult and more expensive.



The latest U.S. report¹ explains that we have to act on climate policy immediately.

Summaries of the major provision of ACES can be found on the House Energy & Commerce² and NRDC³ websites. The bill contains (1) an overall cap on emissions from about 85% of all U.S. sources; (2) emission reductions beyond the cap; (3) complementary measures including energy efficiency standards, renewable electricity standards and requirements to capture and sequester greenhouse gas (GHG) emissions from coal-fired electricity plants; (4) economic adjustments to account for regional differences in the U.S., limiting some short-term negative economic impacts and preventing “leakage” from manufacturing moving overseas; and (5) allocation of 80-95% of the economic value from placing a price on carbon to public goods and services.

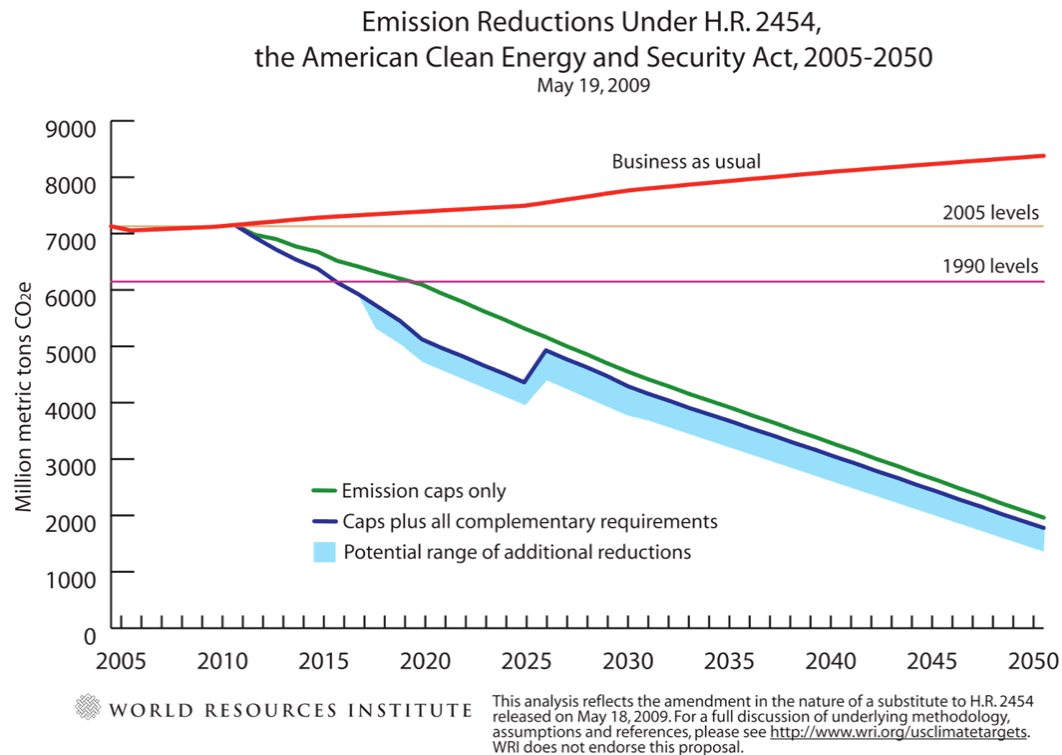
The benefits of ACES include the economic stimulus and green jobs created by both requiring and funding energy efficiency and clean, domestic energy production; providing energy security by moving America away from our dependency on fossil fuels; and putting us on a path to address climate change through significant cuts in greenhouse gas (GHG) emissions and stopping the global destruction of forests. The graph shows the proposed pollution caps that decline over time as compared to the GHG levels of business as usual.

¹ “Global Climate Change Impacts in the United States.” Thomas R. Karl, Jerry M. Melillo, and Thomas C. Peterson, (eds.). Cambridge University Press, 2009.

² <http://energycommerce.house.gov/>

³ <http://www.nrdc.org>

Size of Reductions



According to the World Resources Institute,⁴ compliance with ACES would result in emission reductions of 28% below 2005 levels by 2020. Reductions would come from a combination of the cap on emissions (17%), avoided tropical deforestation (up to 10%) and a requirement to turn in (or “pay”) five tons of credits for every four tons of international offsets purchased (up to 5%). The estimate assumes that avoided deforestation and offsets are real and additional. This is a key design element that requires careful protection and enforcement during implementation.

Offsets

ACES allows reductions to occur through the use of “offsets” (i.e. paying an entity not covered by the cap to reduce additional emissions of their own). Some critics of ACES have focused on the very large quantity of offsets that may be used and question whether U.S. entities could purchase offsets instead of having to do any reductions of their own. ACES requires cumulative reductions of approximately 5 billion metric tons of CO₂ equivalent from capped sources between 2012 and 2020 – an amount far beyond available offset projects. While it is possible for firms to meet this requirement largely through the purchase of offsets, mandates to improve energy efficiency and to invest in renewable energy and carbon capture and storage are likely to produce reductions at covered

⁴ World Resources Institute, The. “WRI Releases Analysis of Emission Reductions Under American Clean Energy Security Act of 2009.” Press release. 2009, May 20.

facilities. A large demand for offsets would also trigger rising prices, limiting demand. The only reason to purchase an offset would be if it is cheaper than reducing your own emissions.

Why not limit the use of offsets to ensure that reductions occur in the U.S.? This is partially addressed because ACES requires five tons of international offsets in order to receive four tons of credit. The broader issue is a political trade-off between the stringency of the cap, the availability of offsets and the expected price of carbon. One can achieve a lower cost of carbon by either expanding the use of offsets or making the cap less stringent. The political negotiations favored a stronger cap rather than more restrictions on offsets. This puts a priority on ensuring that offsets are real, additional and verifiable. See our recommendations below for suggestions on reducing the use of offsets.

ACES has three key provisions intended to ensure the environmental integrity of offsets:

1. An independent offsets integrity advisory board;
2. A standards-based approach (similar to the Northeast's Regional Greenhouse Gas Initiative (RGGI)⁵ and the California Climate Action Registry) rather than project-by-project review. Over time, international offsets must be based on outperforming a national or sectoral benchmark for emission reductions (e.g. a deforestation baseline that declines to zero within 20 years).
3. Robust auditing, program review and revision requirements.

Auctioning and the Use of an Allowance

ACES requires that major U.S. sources of emissions (i.e. over 25,000 tons/year) obtain an allowance for each metric ton of CO₂ or its equivalent emitted into the atmosphere. The declining cap limits the quantity of allowances. The value of an allowance is determined by the market competition that occurs either through the initial auction of allowances or from selling in the secondary market. The carbon market provides a financial incentive for those companies that use innovative technology and services to cut their emissions to sell their excess allowances. The use of an auction allows the market to determine the price based on the actual costs of reducing emissions.

ACES allocates to public purposes between 80% and 95% of the value of the allowances. **It does this in a way that is not at all intuitive!** To understand this, one needs to determine who is the ultimate beneficiary of each allocation – whether auctioned or not.

Examples of public benefits include: (1) energy price protection for low and moderate income households and general price protection for consumers, (2) worker assistance and green job training, (3) support for investments in clean energy, (4) support for efficiency & building code enforcement, (5) incentives to avoid deforestation, (6) assistance to select

⁵ See < <http://www.rggi.org/offsets>>.

industries to prevent job loss and leakage of emissions resulting from manufacturing relocating offshore, and (7) investments in carbon capture & storage.

An analysis from Robert Stavins at Harvard⁶ estimates that between 2012 and 2050, 80% of the value of the allowances will go to public purposes. NRDC estimates that the number is closer to 95%. Whether the number is 80% or 95% depends on how you consider benefits such as preventing “leakage” from manufacturing moving from, say, the Midwest to China. ACES includes free allocations to certain energy intensive industries that are subject to international competition. The allowances are provided only if the company maintains its production in the U.S. However, the amount of the allowances exceeds the number needed to prevent such leakage. Another example is research and development for carbon sequestration. There is a significant public benefit in addressing sequestration but one could also argue that industry should pay the whole cost.

Initially, 15% of the allowances are auctioned with a minimum price of \$10/ton that rises over time. The money received is distributed back to consumers through a combination of tax credits and electronic benefits payments for the purpose of protecting low-income consumers from energy price increases. To fund specific public purpose programs, 20% of the allowances are distributed (in lieu of cash) as follows:

- 7% - states
- 5% - incentives for reduced deforestation in developing countries
- 4% - adaptation and international technology transfer
- 4% - auto retooling incentives and other R&D

39% of allowances are distributed to state-regulated, electricity and natural gas local distribution companies (LDC). These companies have specific requirements to use the value of those allowances to provide public benefits including investments in efficiency, rebates to customers, etc. (Note: the enforcement of this provision is an area we recommend be strengthened – see recommendation 1.)

When an entity like a state government receives an allowance, they will convert it to cash by either asking that it be part of the government auction or selling it on the market. Thus, while the minimum auction is only 15%, the total percentage of allowances going to non-emitters in lieu of cash and thus likely to be part of the auction (either the initial or a secondary auction) is more than 35%.

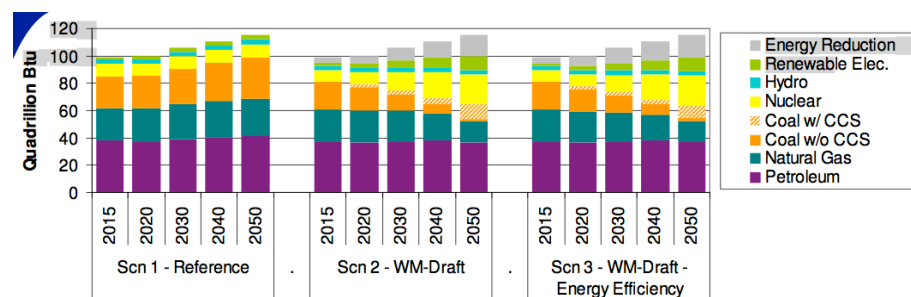
With 80% to 95% of the value of allowance transactions being used for public purpose and not corporate profits, and more than 35% of the allowances being part of a public sale, ACES intends to focus the allocation of allowance value on transitioning the U.S. towards a

⁶ Stavins, Robert. “The Wonderful Politics of Cap-and-Trade: A Closer Look at Waxman-Markey.” Web blog. 2009, May 27. <<http://belfercenter.ksg.harvard.edu/analysis/stavins/>>

low carbon economy and moderating the initial economic effects of putting a price on carbon. As we move towards 2050, the allocation shifts more towards a straight auction.

Coal-based electricity

The electricity-related goals of ACES are to stop the construction of new coal-based plants that do not capture CO₂ emissions and to eliminate CO₂ emissions from existing coal-based electricity by 2050. ACES provides significant government assistance for this effort. The chart below from the EPA April 20, 2009 preliminary ACES analysis⁷ shows estimates for sources of GHG emission and projects coal-based electricity without carbon capture going to zero by 2050:



ACES allows up to ten years to develop the technology and infrastructure to capture and sequester carbon from coal. ACES phases in carbon capture to all facilities whose permits are issued after January 1, 2009. Some U.S. companies are already building demonstration facilities⁸ using a variety of different approaches. The EPA analysis assumes the rising price of carbon will cause older facilities to be shut down or modified to capture carbon. Over 25 states in the U.S., as well as most of China, are very dependent upon coal. Therefore, without a viable path for coal, it is not politically possible to complete a U.S. or a global agreement.

Regional and Economic Realities

Legislators from each region of the U.S. examine how climate policy will affect their consumers' energy bills and how it will help or hurt their district's economic competitiveness and jobs. (For an analysis of emission by state, see "Greenhouse Gases

⁷ U.S. Environmental Protection Agency, Office of Atmospheric Programs. "EPA Preliminary Analysis of the Waxman-Markey Discussion Draft." 2009, April 20.

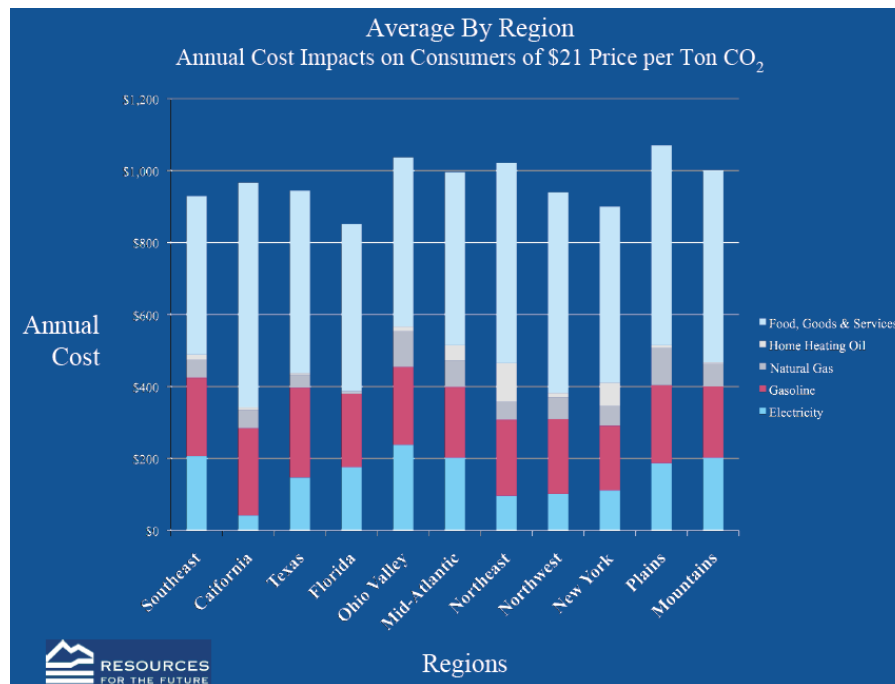
<<http://www.epa.gov/climatechange/economics/pdfs/WM-Analysis.pdf>>

⁸ LaMonica, Martin. "Coal-to-gas Venture GreatPoint Heads to China." *CNET News*. 2009, April 2.

<http://news.cnet.com/8301-11128_3-10197592-54.html?part=rss&tag=feed&subj=GreenTech>

and the American Lifestyle”⁹ or “Interstate Differences in Greenhouse Gas Emissions: Much Less Than Meets the Eye.”¹⁰)

It is no surprise that while a large majority of Congress wants to enact a climate policy, their districts and states are at very different starting points. Their low-carbon alternatives are very diverse – from chicken waste to make biofuels in Arkansas, to windmill component manufacturing in Ohio, to financing transmission installation in North Dakota to get its wind power to other customer states. An analysis by Resources for



the Future¹¹ shows that a \$21/ton price on CO₂ results in a 20% variation in costs to consumers among regions. By far, the largest variation is in electricity. (For some states, the lower costs are because they are early investors in energy efficiency programs and clean power.) ACES adjusts for these discrepancies by allocating allowances to regulated electricity retailers as 50% based on their sales and 50%

based on the emissions associated with the electricity these utilities distribute. ACES also reduces the actual impact through partial refunds and through energy efficiency investments.

On June 19, 2009, the Congressional Budget Office (CBO) released their report – “The Estimated Costs to Households From the Cap-and-Trade Provisions of H.R. 2454.”¹² The

⁹ Stanton, Elizabeth A., Frank Ackerman, and Kristen Sheeran. “Greenhouse Gases and the American Lifestyle: Understanding Interstate Differences in Emissions.” EcoTrust. 2009, May.

¹⁰ Johnson, Laurie. “Interstate Differences in Greenhouse Gas Emissions: Much Less Than Meets the Eye.” Web blog. 2009, June 18. <http://switchboard.nrdc.org/blogs/ljohnson/interstate_differences_in_gree.html>

¹¹ See <<http://www.e2.org/ext/doc/rffregionaldiff.pdf;jsessionid=F3F1E82470AB75F4A9C341B8A190DDFB>>.

¹² Congressional Budget Office. “The Estimated Costs to Households From the Cap-and-Trade Provisions of H.R. 2454.” Washington, DC. 2009, June 19. <<http://www.cbo.gov/ftpdocs/103xx/doc10327/06-19-CapAndTradeCosts.pdf>>

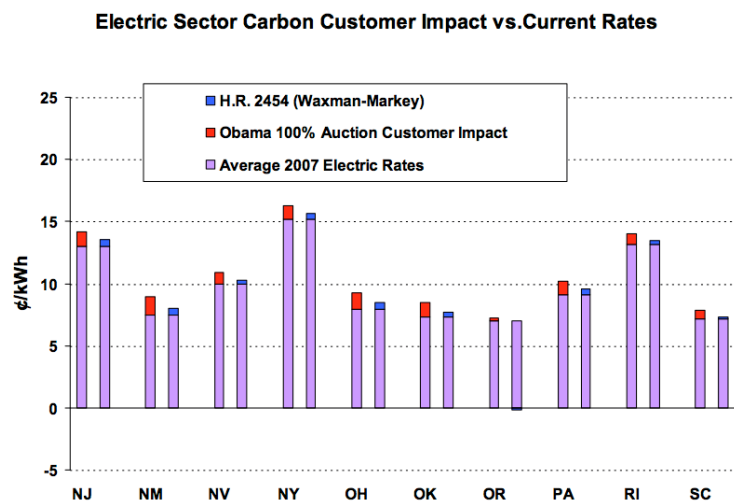
report examines how the cost of ACES would affect U.S. households. Their calculations look at the effect of ACES as it would apply in 2020 (but within the context of the current economy in 2010 dollars). Their findings show that the economy-wide net cost of the cap-and-trade portion of ACES would be \$22 billion or about \$175 per household. Households in the lowest income quintile (bottom 20%) would see an average **net benefit** of about \$40 while households in the top quintile would see an average cost of \$245. This is a result of both an emphasis on protecting low-income households and also the effect of the allowance value used to benefit households as we discussed previously. Note that this analysis does not include benefits from investments in energy efficiency.

Competitive Energy Bills

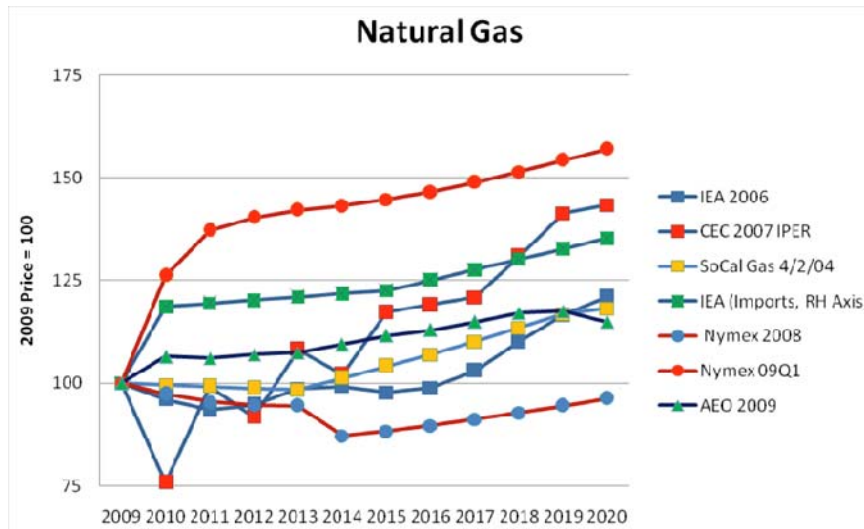
One tension in the debate over climate policy is the trade-off between the impact on energy prices and the price of carbon. The chart at right shows the projected impact on electricity prices in selected states¹³ from ACES. The chart also shows the effect of a 100% auction (not counting the revenue recycled back to consumers). The difference is that local energy

distribution companies are required to use the allowance value they receive to invest in cost-saving efficiency or pass the value on to customers in lump-sum rebates.

Unfortunately, this provision of ACES is not as strong as it could be (see our recommendations below). Presumably a 100% auction would pass a “dividend” back to consumers in the form of efficiency or rebates or both, which is not shown above.



¹³ For additional states and analysis, see <<http://www.e2.org/ext/doc/ExelonElecPrice.pdf>>.



Claims that ACES is “a tax on energy that will raise rates and is unaffordable during a recession” are misleading. The argument ignores the fact that our current energy systems are totally dependent on fossil fuel, with its wild price swings that result in large economic shocks. It was only last summer – before the

recession was felt by most people – when petroleum was approaching \$150/barrel. The chart at left shows various forecasts for future natural gas prices as a percentage of today’s prices. There are two ways to protect consumers: (1) invest early in efficiency to lower demand, which in turn lowers bills (directly) and prices (indirectly) and (2) accelerate the growth of renewables and other energy sources that can cost-compete with fossil fuels.

Strengthening ACES

As ACES moves through Congress there will be ongoing efforts to weaken the bill, and such efforts must be resisted. There are also opportunities to improve it and better implement its intentions. Without changing the basic structure of ACES, there are five areas where the bill could be strengthened:

1. Increase investments in efficiency: Much of the allowance value flows back through LDCs with the intention of defraying cost increases. The allowances provided to LDCs can be better targeted to make sure the public benefit is realized through energy efficiency. Efficiency has the double benefit of both lowering costs for consumers and lowering emissions. Specifically, Congress should require electricity LDCs to dedicate one-third of their allowance receipts to energy efficiency investments - the same requirement as natural gas LDCs have in the current bill.
2. Increase the renewable electricity standard: The target in ACES is about the same as the sum of existing renewable standards being pursued by the states. The U.S. is capable of more rapid growth of renewables, but this meets on-going resistance from states that have yet to adopt renewable standards.
3. Increased auctioning: As mentioned above, over 35% of the allowances will be sold on the market but only 15% are guaranteed to be part of the auction and thus subject to the initial \$10 floor price. Moving more of the allowance to an auction and then distributing the resulting cash would provide greater support for the floor price and would not seem to have any disadvantages. LDC’s could be required to auction some of their allowances and distribute the value to their customers in the

form of energy efficiency programs or lump sum rebates as described previously. (It should be noted that allowance distributions are under the jurisdiction of the Energy and Commerce Committee while cash distributions are under the jurisdiction of the Ways and Means Committee. Distributing allowances probably protects the value from being re-appropriated.)

4. Reduce international offsets used for compliance: While a certain amount of international offsets can both help developing nations and reduce the costs of compliance, lowering the limit on the amount of offsets used for compliance would put more of an emphasis on U.S.-based reductions and solutions. Investments in energy efficiency and renewable energy will drive down compliance costs and make it more cost-effective for firms to reduce emissions at their own facilities rather than purchase offsets. ACES should also direct EPA to adopt policies that will reduce emissions in uncapped sectors on the same scale and timetable as capped sectors in order to ensure that the US meets economy-wide emission reduction targets. This will have the effect of reducing the number of offsets available in the market and make reductions at covered facilities more cost-effective.
5. Restore EPA authority: In light of the national cap, the bill drops authority for setting ambient air quality standards and hazardous air pollutant standards for greenhouse gases. It also drops authority to set performance standards for new and existing sources that are under the cap and to conduct case-by-case review of new and expanded sources of these pollutants. Some of these changes are reasonable, but others are overly broad.

Next steps

This article is being distributed the week during which the House could vote on ACES. Two committees – Ways and Means, and Agriculture – were due to provide their amendments by June 23 (The Ways and Means Committee has decided not to mark up the bill.). After that, it goes to a full vote on the floor of the House.

Senator Barbara Boxer (D-CA) has stated her intention¹⁴ of holding a review of ACES in the Senate Environment and Public Works (EPW) Committee and completing a mark-up before the August recess (August 10 through September 7). Since EPW approved a climate bill last year and the committee's membership has more climate action proponents in the new Congress, we expect it to pass.

The uphill fight will be finding the 60 votes needed in the Senate to bring ACES (as modified) to a full floor vote. The first step will be to confirm that the Senators – mostly

¹⁴ Center for American Progress Action Fund, Climate Progress project. "Boxer plans week of Aug. 3 for cap-and-trade markup, Udall (D-CO) gives final bill "50-50 or better odds" of passing the Senate this year." Web blog. 2009, June 15. <<http://climateprogress.org/2009/06/15/boxer-cap-and-trade-markup/>>

from the Midwest – who expressed concerns¹⁵ about last year’s bill are satisfied that those concerns have been addressed. That would provide a major vote-boost in favor of ACES, but not necessarily up to the 60 needed to bring the bill to a floor vote. Getting to 60 requires an extraordinary bi-partisan push combined with an all-out effort by President Obama to sell the economic benefits of climate legislation.

We believe the enduring economic benefits include jobs from new cleantech industries, the building of a green infrastructure, and a diversified and more local energy system that will result in more competitive energy bills.

E2 members have expressed their support for ACES several times in the past months, most recently in an Action Alert¹⁶ that was delivered to the entire House membership on June 23. On July 9 we will push forward in our work to promote carbon policy in the Senate with a delegation trip to meet with key Senators from agricultural, manufacturing and coal states. In the weeks to come E2 members will continue to provide legislators with first hand testimony, through advocacy trips, action alerts and personal phone calls, that a cap on carbon emissions will create the platform for reinvigoration of the American economy.

¹⁵ Stabenow, Debbie, et. al. letter to Senators Harry Reid and Barbara Boxer. United State Senate. 2008, June 6. <<http://www.e2.org/ext/doc/Demclimateletter.pdf>>

¹⁶ See <[http://www.e2.org/jsp/controller?docName=petition\(ACES2009HOUSE\)](http://www.e2.org/jsp/controller?docName=petition(ACES2009HOUSE))>.